

Inverse Approach of Cylindrical Surface Heat Source and Related Thermal Stresses

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Abstract: *In this problem, heat transfer analysis in a circular plate due to axisymmetric ramp-type heating under transient temperature conditions have been discussed. The circular plate is subjected to axisymmetric ramp-type heating on upper and lower surface whereas the convection due to dissipation takes place through circular boundary surface. The Laplace transform and corresponding inversion integral methods are used to remove time variable whereas Hankel transforms are used to remove space variable r . The analytical solution of boundary value problem for temperature change within circular plate have been computed numerically and illustrated graphically.*

Keywords: *axisymmetric ramp.*